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"Speak not in the ears of a fool: for he will despise the wisdom of thy words."—PROVERBS.

THE ACCRETIVE SYSTEM OF DEVELOPING MEMORY AND THOUGHT

Address before the COSMOS CLUB, Jersey City, N. J., September 23, 1889,

BY

JAMES PIERSON DOWNS

"A well cultivated memory means an intelligent manhood and an active old age. He who remembers most thinks the most, for he has the most to think with." CHAS. G. LELAND.

THE ACCRETIVE SYSTEM COMPRISES A SERIES OF SIX MANUALS, AS FOLLOWS:

I. The Mastery of Memorizing.
II. Quickness of Perception.
III. Ear Memory and Eye Memory Training.
IV. The Study of Languages.
V. Memory and Thought.
VI. Memory Training of the Young

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CONTENTS.

He who has a memory that can seize with an iron grasp and retain what he reads (the ideas simply without the language) and judgment to compare and balance, will scarcely fail of being distinguished. Many are afraid of strengthening the memory, least it should destroy their inducement and power to originate ideas—lest their light should be altogether borrowed light. The danger does not seem to me to be very great, especially since I have noticed that *those who are so fearful of employing this faculty are by no means to be envied for their originality.*" —*From Todd's Student's Manual.*

J. HORACE MCFARLAND, PRINTER, HARRISBURG, PA.

Memory.

"Memory is the mother of wisdom; for what is wisdom without memory but a babe that is strangled in its birth."—Bias.

A good healthy memory is so rare as to be phenomenal, and its possessor is regarded as one specially gifted. Yet notwithstanding its importance, and the infinite possibilities of its development, modern educational systems ignore, if they do not condemn, its cultivation, while at the same time by both educators and the world at large the memory is constantly recognized and adopted as the standard of excellence and advancement.

Our youth enter the primary schools; there they are given certain tasks to learn; in order to pass into a higher class they are questioned to ascertain how much they remember; their entrance into still higher classes is determined by their progress, or in other words, by what they remember. On entering the intermediate schools they have to pass examinations again to exhibit how much they remember of their past studies, and their progress through the various classes of the intermediate schools is continually determined by tests of memory.

To enter the high school they have another gauntlet of examinations to run—success in passing each of them being conditioned on the memory.

At entrance to college, examinations again confront them—they must show how much they have remembered of their past studies, and having successfully matricu-

lated, their life for four years is one of mingled hope and despair as the middle term and final examinations roll around, and their memories on each occasion are subjected to a rigid scrutiny. If they pass, they rejoice, but if they fail, they and their friends feel disgraced.

Yet of those who do pass the various college and other examinations, there are very few, who, without reviewing their studies, could do the same three months after.

The professional course is then taken up, and followed for three or four years, but before being credited by the University as competent to preach, plead or physic, they must pass still further examinations, and after such an experience during a period of perhaps twenty years—success in every case depending chiefly or wholly on memory—they enter upon actual life and find fortune still dependent upon the same faculty.

How often has it occurred to teachers, during all these years of study, while thousands and tens of thousands of facts and principles are being forced into the minds of pupils, that while so many things are given pupils *to retain*, they are not taught, and no attempt has ever been made to teach them *how* to remember? It is urged by the progressive educator of the present day that no effort should be made to train the memories, that what is wanted is to make the children and youth reasoning creatures, and not parrots.

Educate your youth, then, strictly on a logical basis, and when his reasoning powers shall be so well trained that he can differentiate with accuracy betwixt the north and northwest sides of a hair, propose him for entrance at a college, or for a college degree.

But should he present himself for admission to any college, and claim that although he could not remember enough to pass the examination, yet his reasoning and

logical powers were of a high order, he would be considered a fool. If after attendance for four years he should then demand graduation and a degree on the ground that his intellect was great, though his memory was poor, he would be considered insane.

However strictly, therefore, pupils are taught that the memory is of little worth and that the reason and judgment should be made the supreme objects of training, yet so long as the memory alone is taken as evidence of fitness for entrance into college, for graduating from college, and for a professional degree, they will quite rationally conclude that after all there must be much good in a strong, healthy memory.

A great deal has been written about the wonderful memory power of children and youth. Undeveloped, this is much less than is supposed; but trained, it exceeds the wildest dreams of educators.

Take an adult, a university graduate who has had twenty years of scholastic training according to modern educational methods; yet in ninety-nine cases out of a hundred it will be found impossible for such a one to memorize ten isolated facts daily for a hundred days, and at the end of that time be able to recall them all. In the case of youths at school, their minds being weaker and untrained, their memory power is of course less; nevertheless, it is the general practice for children at school to have assigned to them half a dozen different branches of study, each subject covering more than a dozen new statements of fact. This *disciplining* process is adhered to five days in the week and nine months in the year. The minds, instead of being previously gradually awakened and strengthened, are weakened by over-pressure. The result of this cramming and over-pressure is to destroy the memory of youth, and such is the tendency of the

present system of school education, on the testimony of able and experienced teachers.

Inquire among acquaintances. How few there are with good memories! How many there are with poor memories! Are not people continually complaining of their poor memories—or that they have no memory at all—even among those who have had every educational opportunity and advantage? Is it *unreasonable* to expect that education, instead of destroying the memory, should rather have strengthened it?

"It seems remarkable that the question should ever have arisen whether a powerful memory is compatible with great soundness of judgment. *Soundness of judgment without a fair development of memory is impossible.*

"The mistake on this subject has probably arisen from two misconceptions. In the first place, a cultivated and disciplined memory has been confounded with a miscellaneous and unclassified collection of facts. In the second place, the abuse of memory has been confounded with the use of it."[1]

That the memory of the average scholar may be improved indefinitely, has been tested and proved to perfection.

This fact was well known in the early ages, when there were no books and scholars were self-dependent; and it was proved during the Middle Ages that not merely men of special natural endowment, but *all* men who devote themselves to study, may have what would now be regarded as marvelous memories.

During these Middle Ages there was in Europe a religious sect called Bogomiles, which spread from Bulgaria even unto England. It was said that there was not one person in the sect who did not know at least the New Tes-

(1) Wayland.

tament by heart, and one of their bishops, in a letter, asserted that in his flock of four thousand there was not one who had not every word both of the Old and New Testaments perfectly in his memory.

Before the invention of writing there was no other way of preserving learning, whether sacred or profane, and in consequence every precaution was taken against accidents. Stranger still is the fact that the Brahmins, who may be considered the especial guardians of the sacred traditions of India, in our own day, do not employ either the written or the printed texts in learning and transmitting their holy lore. "They learn it as their ancestors learned it thousands of years ago, from the mouth of a teacher, so that the Vedic succession should never be broken," and so well do they perform the duty, and so accurately do they transmit the text, that "there is hardly a various reading, in the proper sense of the word, or even an uncertain accent, in the whole of the Rig-Veda, which consists of more than a thousand hymns, averaging ten verses, and contains more than one hundred and fifty thousand words."[1]

"We in the West," says Dr. W. Robertson Smith, "have little idea of the precision with which an Eastern pupil even now can take up and remember the minutest details of a lesson, reproducing them years afterwards in the exact words of his master."

It is very remarkable that in all European and American education children are set at hard intellectual tasks on the theory that memory already exists, instead of giving them the proper training to create it. It is just as if children should be set at physical labor far beyond their power, on the theory that strength will come at once.

When a man is to enter a prize-fight, or a foot-race, or

(1) Practical Education.

take part in a rowing match, we know enough to train his muscles beforehand ; but as regards the memory, we wait till the contest begins in the struggle for life, and then bid the pupil become strong, or train while striving for the prize.

In order to remember whole libraries perfectly, the memories of the students in Ancient India were systematically trained and strengthened beforehand.

Their memories having thus been first developed and *made capable* of retaining what was committed to them, they were then given the various works which they must master and remember.

Many people greatly *undervalue memory*. "We no longer need," they say, "such vast memories as men cultivated in the early ages—our libraries and cheap books supply their places. It would be better to culti vate the more active *intellectual* faculties."

It may be well to remind such objectors that books now multiply very rapidly, and vast memories are needed only to know what books exist. Moreover, "reliance upon indexes and authorities must limit research and deductions to the scope of one's predecessors. The result must be mere imitation or repetition—a multiplication of volumes without originality—and too much of this already prevails."[1]

Those who urge that there is no longer occasion for great memories, since printing cheaply records everything for us, might as well urge that bodily strength or health are no longer of such value as they were in the old rough-and-tumble times, because now we have such excellent physicians and medicines. They are forgetful—or are more probably *ignorant*—of the fact that an *active* memory is the great feeder and stimulus of an active in-

(1) G. F. C. Smillie.

tellect, and that it is perfectly possible to have the great memories of the old time allied to the libraries and learning of the new.

"From the days of Plato there have always been great minds who have understood, more or less, the truth that memory in perfection was the basis of thought, and not merely a convenient receptive faculty. Certainly the man who, like the Scholar in Barclay's *Ship of Fools*, has all his learning in his books and none in his head, is little likely to think or create much, and those who maintain that we can do without great memories may quite as sensibly maintain that we can also dispense with wisdom and wit, because both may be found in books—like the man commemorated by Nasby 'who had no occasion to read or write, because *he* always kept a nigger to do both for him.'"[1]

"It is a popular fallacy that any special development of the memory is obtained at great cost to the intellectual faculties. This is a delusion, and the best possible proof that it is, consists in the fact that the science of dialectics never flourished so brilliantly as during the ages when men had to trust to their memories for all aids to controversy and ratiocination. The learned then carried their libraries in their heads, and there is ample and varied proof that the erudition thus stowed away was so orderly arranged as to be at the instant command of its owners. What we now consider prodigious memories were then the common possession of thousands everywhere * * *. Also it is to be observed that this cultivation of the memory tended to the production of strong individuality. Each man took what he most needed or preferred in the way of learning, and each assimilated all he took, working it into the warp and

(1) Mastery of Memorizing.

woof of his own intellect, as Shakespeare worked the crude and clumsy plays and novels out of which he wrought the immortal dramas which bear his name. At present the influences of educational systems operate in the contrary direction. They conform all minds to a common model, and tend to the establishment of a monotonous and rather low intellectual level."[1]

In disproof of the idea that memory development is at the cost of intellectuality, it is extremely interesting to note that the time of the greatest memory cultivation was also the time of the production of great works.

To every man his own mind represents a capital which he desires to invest to the best advantage. His first thought is to acquire *knowledge* (be it of business or books), because he believes it to be power. But behind knowledge lies *Power* itself, which not only masters knowledge, but everything worth acting out. The great factor of this mental power is Memory, which has hitherto been treated as a mere passive recipient of sensations, but which, according to the Accretive system, is *active*, and works with intellect as an indispensable part of it.

It is common to confuse the word memory as *a receptacle*, with memory as the active faculty of accumulating, and as the ability to *find* at once, or to refer to anything in the mass. To do the latter requires thought or *active knowledge, i. e., knowing.* Thus, thought creates memory and memory begets thought. And it is entirely due to ignorance of this, or want of thought, that there is so much popular misconception of memory. He who has only a vast number of images laid up, has merely the *material* for memory. But the power of *remembering* these when needed, involves and implies good classification of

(1) New York Tribune.

all our knowledge and ideas, and this is correlative with intelligence. One-sided thinkers always have one-sided memories. Passive and active memories are the same with passive and active knowledge. There is no instance of a really great man of science, or mechanics, who is also a man of business, a man of the world, and, let us add, a scholar, who has not a good memory in the full sense of the word.

Memory is the great combining element of the faculties. By it they are enabled to work harmoniously, and to a result—without it confusion reigns and distraction follows.

Everyone desires to have a good memory. "Memory," said Bias, one of the seven wise men of Greece, "is the mother of wisdom." Wisdom here includes not only "higher intellect," but plain practical common sense. In fact, the cleverness which is the soul of "law and business" is more dependent on a good, working memory than is genius, "which soars by inspiration." It is a fact little reflected on, that since the days of Bias and Plato down to the present time, there have been no great thinkers who have not approved the opinion that memory is the basis of reflection and intelligence.

But this appreciation of the value of memory has always been held subject to what, according to the greatest investigators of our day, is an error. This is the belief that every man has a good or bad inborn memory—'just so much, not more or less'—in fact, that it is "finite, definite and limited." "Every man," says the proverb, "complains of his memory—none of his judgment." This, if it means anything at all, means that he is not responsible for his good or bad memory—it being just what was allotted to him, while his judgment is the result of his will or natural cleverness. "I

have not naturally a good memory," may be heard from people who would never dream of saying so if they knew the absolute truth—that a very good memory may be acquired as certainly as one can learn French, or the piano, but in much less time.

It has been demonstrated that every man of ordinary intelligence can, by a proper system of training, create a vigorous memory of practically infinite extent. When the world believed—as it did, till within a few years—that memory was a mystery or "gift" of which all that was known was that there was only just so much allotted of it, people took what they found, and sought no further, nor did they complain. It was a "gift," and they would not look a gift horse in the mouth. Now we know, thanks to Carpenter, Kay and many others, that "memory is a vast collection of brain cells, every one of which contains an impression, idea or image," and these are so numerous that in all probability no man ever lived who received, consciously or unconsciously, more than one-sixth of what his memory could contain.

This means that there is simply no end to what the memory may take in or receive. But this does not make *a practical* memory, or put things "at our fingers' ends."

The writer has known a bookseller who had got together many thousands of old books, piled away, and of this immense number only a small portion was really available, for he did not know what he had. We must take and keep *account of stock*—or we can make no sales.

In reality there are but two ways of remembering. One of these is the *direct* method, by which memory is trained by an easy and unerring process, to grasp and retain an idea. This is the Accretive system, which while doing so, also stimulates and developes thought, so that "the more memory the more mind" is the result,

and the more we learn, the less danger is there of weakening any of our intellectual powers.

Opposed to the *direct* grasp we have *associated* memory, which gives a factitious but altogether uncertain aid, of a vague and fanciful kind. It does not pretend to record sensations in general, and all its efforts devoted merely to remembering certain things or specific images.

It has been well remarked that the former as compared to the latter is like mathematics compared to poetry; and the simile becomes a truth when we remember that all great mathematicians or men of science do recall facts *at once*, while poets place the art of their art in similes or associated images. But as direct or mathematical memory takes in all that association can give and has great power over and above this, so the Accretive system includes all that is useful or practical in mnemotechny, while rejecting its clumsy methods.

By the Accretive system a child can, in the time usually devoted to school studies, master them far more perfectly than is now done, while developing in addition a general memory power which would seem to most persons marvelous, if not miraculous.

This same general power can be developed by a grown person in the time generally required to learn a language or a musical instrument—that is to say, from one to two years; although in many cases remarkable and most encouraging results ensue even after a few weeks.

There is not a so-called art of memory or mnemotechny in existence in which the methods and lessons or exercises are not far more difficult to master than those of the Accretive system; the great principle of progress in the latter being always to keep the work down to the capacity of the pupil, and that within the limit of perfect ease.

A good memory in its proper sense implies the fullest exercise of intellect of every kind. When properly taught, the more we remember the more we think, and (conversely) the more we think the more we remember. This higher view of memory as an active power and correlative of thought has occurred to many sages, who have borne witness to it in many ways. A useful or *active* memory is one which gives us what we want promptly when needed, on all occasions, and this can only exist when it is in touch, or in accord, with a superior intelligence. Merely to have the Bible by heart is not to have a great memory, but to be able to quote any text in an appropriate manner is a perfect proof of one. "Not those things which we commit to memory are always the easiest to remember."

The result of the Accretive system is to make the *will* perfectly familiar with *all* the stores of the memory, so that it can awaken them at a touch. This is affected by a series of very gradual, easy exercises, which call both memory and reflection more and more into play, at compound ratio of increase. The first great perceptible result of the system is a well ordered, admirably controlled thinking power, and an instinctive avoidance of mind-wandering.

To attain this result in the young is to achieve something so important that for this alone a year would be well spent in Accretive training. And it is very certain that no person of intelligence, and above all, one familiar with education can read the manuals of the Accretive system without admitting that the system is perfectly adapted to discipline a mind.

"The history of mental development is that of the progressive blending of memory and thought."

"The distinguishing characteristics of a growing intel-

lectuality is the perception of the relation of new facts to old, the discovery of missing links, and of the greater laws that govern and connect broad areas of seemingly disconnected phenomena."

"Growing old mentally means nothing more or less in most cases than the losing memory, and with it, of course, the habit of reflecting on or thinking about what *once* we knew. I have paid great attention to this subject for many years, and am satisfied that remaining young, *i. e.*, intelligent, depends on reviewing ideas. Men like Goethe and Gladstone keep young by keeping all their memories awake. Men who when young never cultivated memorizing and reviewing beyond a certain point, have, of course, only a given measure of mind. Every day of their lives they experience something new which they take no special pains to remember, nor do they review what was once learned, and then perhaps at sixty years of age, because they cannot remember some certain fact of all this vast accumulation, complain that they are growing old and that memory is failing. The fountain of youth lies indeed, as Ponce de Leon thought, in a new and unknown realm—I mean the Accretive system—which is as yet almost unknown, but in which the real and only fountain of youth really exists."—*Chas. G. Leland.*

"If the memory grow dim in old men, *then some greater malady is to be feared* (tunc timendum est de pejori ægritudine)—*i. e.* lethargy, epilepsy, apoplexia, paralysis, and all diseases which have their origin in the brain. For these we run to the doctor, *but may go in vain, if the patient be so old as to be past reviving his memory.*"—*William Gratarolo, M. D.*

"That which is known and dreaded as mind-wandering, may be explained as follows: When we are quite awake our thoughts are guided and controlled by that reason which is practically will in association with common sense, as Dugald Stewart understood it—or the thinking and acting according to a standard established by experience. When we dream, reason sleeps, and all kinds of images or memories *associate*, apparently as atoms form

by affinity chemical proportions. Not being guided by *reason*, the mind *wanders* into all kinds of wild and erratic combinations.

"Now it may be observed that if we, while awake, drowse or fall into a brown study, reason or common sense retires a little, and we begin to dream; that is, the memories of things, being less controlled, frisk about freely by association. This is *mind-wandering*. It may, according to the manner of association of images, become mere lunacy, or refined imagination, poetry or art. One thing is certain, that it is a departure more or less from fully waking will.

"But it is also true that common sense will may be wide awake, and yet give play to imagination while controlling it. This can be effected in one way only—by *mastering* memory. For as reflexion is based on sensation, so both common sense and imagination are based on memory. And it is very apparent that the more memory itself is trained and disciplined by reason, and the more it is under control, the less erratic mind-wandering there will be.

"A lunatic is a man who dreams while wide awake—that is, his memories scatter irregularly. If our memories are well regulated, we cannot be insane.

"Yet the most perfectly organized working reason or will and common sense, so far from checking or benumbing imagination, actually knows how to let it play while watching it, and to guide it to the grandest results. All invention, all great and original thoughts, are the result of the *mastery of memory by reason*. As the Norse sorcerer, king Froda, compelled the wild witches Fenja and Menja to grind out from the magic mill all that he wanted, gold or salt, so reason can make memory and imagination

yield all that they possess, be it the gold of poetry or the salt of common sense." (1)

Within a few years, owing to an increased dissemination of knowledge in cheap literature, and many other forms, there has been a corresponding demand for methods of training the memory.

During the reign of William IV of England and the early days of Victoria, or in "the penny magazine period," when there was a very sudden and general extension of popular knowledge, there was also a corresponding outburst of "Arts of Memory," and a like cause has produced a like effect of late in "Anglo-Saxony," especially in its American division.

There are now before the public, as there have been for hundreds of years, various systems professing to teach the art of getting by heart certain things, and of improving or even developing the memory. Not one of them however, teaches in any way the art of *creating or forming a memory* before proceeding to cram or drill it. The generic term for all these systems is that of Mnemotechny or the *Art* of Memory, *i. e.*, of *applying* Memory—not of *making* it.

There have been published about three hundred of these "Arts of Memory"—"Mnemotechnics," "Phrenotypics," "Phreno-mnemotechnics," "Mnemologics," "Memory Aids"—even "Pills for Aiding the Memory," —and "Memory Doctors"—mostly by memory quacks who have stolen ideas from the few great minds who have surmised the truth that memory is "a manageable quantity," and endeavored to solve the problem of its management.

A waste garden must be cleared of noxious weeds before a healthy growth of useful plants can be had; so the

(1) Memory and Thought.

errors of the mnemotechnic or associative systems must be cast aside before genuine benefit can be secured.

As the modern systems are simply trifling variations on their predecessors, it will suffice to name only a few of the former; *e. g.*, the systems of Loisette, Evans, White, Pick, Stokes. The basis of all is the same; that is to say, Association of ideas by artificial and external aids. *Not one of them* trains memory to a *direct* straightforward grasp of a subject. Yet the whole history of culture shows distinctly that *all* men in whom great *minds* have been combined with great memories have had the "direct grasp" on what they had accumulated, and did not recall one image by another, much less by a long list of similarities. In fact, "the greater the mind the more direct the memory" may be taken as an axiom, and it is the most practically minded men who go straight at an idea and recall it without ceremony

To become *thinkers*, we should not only remember things, but try to create a perfect *memory*. A perfect memory is pre-eminently a *thinking* one, which, when anything is needed, knows so well where it dwells as to go directly to it, and grasp it at once, and not wander about inquiring from one quarter of the town to another for it, as those do who rely on *associations* to find it.

The main difference between the practical and the unpractical genius is, in almost all cases, to be reduced to the discursive habit, or that of *going astray on some association*. Now, it is a fact, and one self-evident to a thinker, that all Arts of Memory or mnemotechnics foster and develop this evil tendency to an *excessive* degree. For they *develop association*, and thereby weaken or destroy the power of grasping directly by the memory. But to remember the word; or date, or fact itself, directly and straightforwardly by a simple effort of the

mind, *they do not teach,* and yet it is far easier to learn.

A few mneno-techno-mnemologic-phrenetic examples:

"Haydn—haymaking—perspire—wash—*common-soap; i. e.* 1732-1809."

"Curo-curry (an article of food)—cookery-cucurri-badly cooked—disgust—curse—cursum.

"David was crowned King at Hebron—David Saw Lion Jump; *i. e.* 1056."

"The shield is not worn by a warrior to satisfy a mere.....whim (William III) but to enable them to.... *dodge off a fighter sidewise.* (1688-14-10); that is, ascended the throne in 1688, occupied it 14 years, and belongs to the 10th dynasty."

(The "intermediates" or "correlations" form what is mnemotechnically termed a "bridge" or "chain," by means of which it is taught by the mnemotechnists that any desired word, date or fact can be retained in a manner that is easy, permanent, infallible.)

After reading the further illustrative examples, the student will be amply able to judge of the truthfulness of this claim.

THE SIGNS OF THE ZODIAC.

Zodiac-zoön (Greek for animal)—animal—ram

ARIES—arise—get up—toss up—"bull"—

TAURUS—tore us—four of us—two of us—twins—

GEMINI—gem—diamond—carbon—charcoal—charcoal tin—tin can—

CANCER—disease—diseased—feeble—strong—"Strong as a lion"—

LEO—lion—lioness—female—

VIRGO—virgin—maid—weighed—scales—

LIBRA—liber—liberate—capture—cobweb—spider—

SCORPIO—reptile—rattle-snake—snakewood—bow—arrow—sagitta—

SAGITTARIUS—bowman—sportsman—game—goat—

CAPRICORNUS—capsize—fall overboard—wetting—water—aqua—

AQUARIUS—aquarium—fishpond—

PISCES—fishes—sheephead—lamb—ram—

Could anything be more directly conducive to mind wandering, or the irregular feeble habit of straying from one ridiculous resemblance to another as in a feverish dream, than these nonsensical stringings together of bulls, charcoal-tins, spiders, virgins, bows and arrows, tin-cans, rattlesnakes, goats, rams, fishponds, feeble lions and diseased females, and all manner of idle jingles without ideas. That *such* a system can be recommended, as it is by the White, Evans and Loisette schools of professors, and their approvers for memory-training, and as a *cure* for mind-wandering, almost surpasses belief!

A protest against such methods of memory-training and of curing what are called treacherous memories is made by Mr. Hamerton in his *Intellectual Life*. "They are generally," he says, "founded upon the association of ideas, but the sort of association which they have recourse to is unnatural, and produces precisely the sort of disorder which would be produced in dress if a man were *insane* enough to tie, let us say, a frying-pan to one of his coat-tails, and a child's kite to the other."

In the *Educational Times*, Sept. 1st, 1888, Dr. J. H. E. Brock, B. Sc., in an editorial on memory, says:

"Mr. Loisette places a high value on his system, but he operates by means of a very complicated machinery. I was once tempted to learn a subject for examination by Mr. Loisette's system; and I shall not easily forget my state of mind on the eve of the examination. My first difficulty in working with this system was how to get the facts into my head. I found the task of committing facts to memory *enormously in-*

creased by the machinery employed during the effort; and I was confronted by this still more serious drawback, that having learned my facts, I became totally unable to recall them, except through the medium of the same machinery that was employed in learning them. With the slightest flaw in the mechanism, I was brought to a complete standstill, and was perfectly unable to recall any further information on the subject before me."

A recent review of mnemotechnic systems quotes President Seelye, of Amherst College as condemning "the entire Loisette system as absolutely worthless;" and in this opinion many others concur.

It has been asserted by a writer who has examined with care all the current systems of mnemotechny, that what are called new systems are only the old ones carried to a more ridiculous extent, and that "in such cases as that of W. W. White, a follower or imitator of Loisette, the exercises are simply long strings of words having no ulterior use or object."

"The absurdity of all these 'systems' lies in their assumption that if you want to remember A and X in connection with each other, you will facilitate matters by putting B, C, D and E between them, and remembering them also, although they have nothing to do with A and X. Not only must B, C, D, and E be remembered, but if you wish to recall A, X, you cannot do so unless you can recall B, C, D, and E. It must be obvious that if A and X are the things you want to remember, that it is a very poor method or "system" that directs you to wander off to four or five "intermediates" having noth- to do with them. Yet such, in a nutshell, is the whole sum and substance of the Loisette and White and Evans systems."

In the beginning, by means of mnemotechny, the pupil can frequently *recall by remembering something else*—if he *can* remember it, *and does not miss the cue.* But in a very short time the apparatus becomes complicated

and harder to remember than the images themselves which it professes to recall.

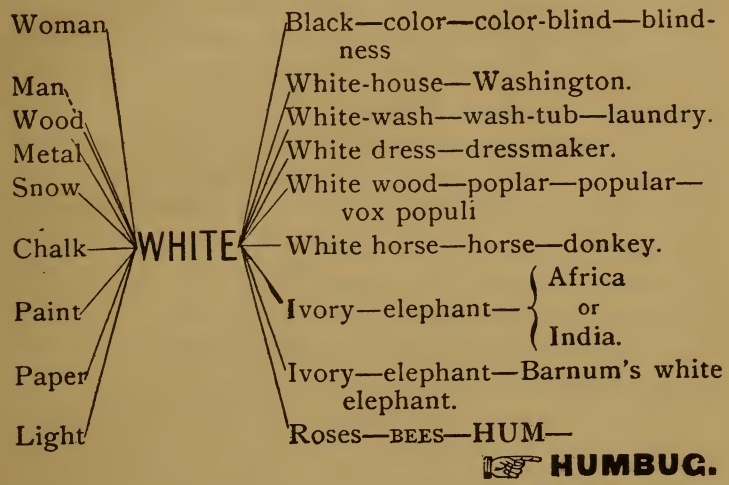
The student may be deluded for a few weeks—perhaps months. Then the appalling absurdities and crushing impossibilities of applying mnemotechny to serious problems of memory begin to manifest themselves. The associations which it was confidently believed would be helps become hindrances. They cut across and constantly interfere one with the other, the result being simply this, that the further the student goes the more he goes astray. In all such mnemotechnic systems it soon becomes necessary to use some word which has already been used as an "intermediate." This leads to confusion. Suppose the word "white" had been used, and in one "correlation" it led to Washington, and in another to India. Three months after you have made your chain, or series, it will be mere guess work as to which is the right path.

Mr. Evans, Loisette's former assistant lecturer, has within a short time himself come out with a "system." Mr. Evans recognizes the liability to err just shown, and says that in such cases, to prevent mistakes, we must rely on the context (*i. e.* know first what you are trying to remember).

Loisette, however, does not publish such fatal defects of his "*Instantaneous* Art of Never Forgetting." The probabilities of error nevertheless exist, for we cannot put out the light of the sun by turning the head or shutting the eyes, and the great liability to err here apparent has called forth the condemnation already quoted, that "Loisette's entire system is dangerous and entirely worthless."

From the following exemplification of such systems

judge of the extreme improbability of exactness by their methods:



The enormous amount of ridiculous rubbish which the pupil is expected to get together to remember facts and dates by such a system as that of Loisette, (and the systems of White and Evans are identical with it) is absolutely incredible. As illustrating what he calls *his* laws—which laws themselves require but once reading to comprehend, and have been employed under various names since the time of Aristotle—Loisette gives many farcical exercises, consisting of long series of laboriously joined words. Those exercises he insists must *be recited several times daily for from one to two months* (necessary *instantaneously* to remember them by his "*instantaneous* Method of Remembering"). He further recommends students to make other (equally absurd) lists of five hundred or more words each, and recite them at least twice daily for several months, promising that great memory strengthening will follow such labor.

(*Vide* "Flower" Series and "Muse" series of Evans; W. W. White's "Sun and Moon" series, and "White Hat" series; and the "Dough-Dough" series of Loisette. The observation of the latter that "A baby fish now views my wharf," and "A bear may muzzle a gun-case," must be taken with a grain of salt; his averment, that "I rarely hop on my sick foot" is therapeutically sound.—*Loisette Exposed*, pp. 40 and 122.)

All memory exercise tends to increased memory strength, and it is by virtue of this principle that even the forced methods of mnemotechnists (Evans, White, Loisette and others) have been of any benefit. White, Loisette and others actually teach it, while they indirectly proscribe it.

The method involves a truth, and may be illustrated by the following:

It is related that, once upon a time, an ignorant Indian consulted the big medicine man of his tribe for the cure of a weak arm. The sorcerer handed the patient a small rod, and directed that it be waved in certain directions one hundred times morning and night for a lengthy period, great care being taken at the same time to repeat *a certain magical incantation of great wonder-working power*, which *magical incantation* would certainly soon effect great results.

How much of the benefit to be derived would be due to the exercise so emphatically insisted upon, and what proportion of the benefit would be due to the magical incantation, is quite obvious; but in the case of the mnemotechnists' "Natural Memory Method," "Marvelous Memory Discovery," and "Instantaneous Art of Never Forgetting" professors, and many of their students, they ignore the fact of benefit by exercise, and blindly worship at the shrine of their absurd *magical incantations*.

The professors of "The *Art* of Memory" claim that by practicing and mastering their enormously extensive and complicated apparatus (magical incantations) the memory is strengthened, and that their methods lead at last to learning and wisdom, yet do not lend one line in all their works to the practical acquisition of either, nor do they create a real or *direct* memory; on the contrary they injure it by substituting for it association and tricks. The will and work which should have been devoted to a straightforward grasp of facts they divert into "weakening ways," and that to great harm. A strong and perfected memory can exist only in unity with intelligence, because, without the latter even a vast and varied collection of ideas cannot be kept alive, or exist at all.

The so-called laws of association, resemblance, contrast and contiguity have been for two thousand years urged as effectual in assisting to remember. These, in fact, constitute the basis of all mnemotechnics where they appear under different names.

But comparisons themselves are subject to the same loss by forgetfulness as are the facts without the comparisons, though comparisons certainly greatly aid retentiveness. Comparisons may indeed prolong the memory life, but do not confer immortality.

Moreover, it is not always possible to make a suggestive comparison to fix in memory a particularly desired fact, and even when made, comparisons strengthen only in individual cases, but are without effect as regards making the general memory any stronger.

"The defect of most methods which have been devised and employed for improving the memory, lies in the fact that while they serve to impress particular subjects

on the mind, they do not render the memory as a whole, ready, or retentive." [1]

Mnemonics aim at recalling, by suggestive and oftentimes very ingenious comparisons, what is embodied in language, spoken or in print, and failures in such attempts, by their methods, are legion. But hearing and sight, it will be recognized, are only two of the channels conveying impressions to the brain; the brain receives impressions through all the other senses as well. Moreover, printed language forms but a very small part of what we see, just as we hear many other things than speech. But mnemonics and associations are helpless to recall a beautiful picture, or landscape, or the face of a friend, or the song of a bird, or vocal or instrumental music, or the voice of a loved one, and the countless other impressions received by sight and hearing only.

By means of various forms of association and comparison, mnemonics help to recall particular facts, but for each new fact a new association has to be sought. No matter how many such associations are collected, they do not make the memory more quick to apprehend or retain new facts; each new fact has to be separately dealt with, and for a great variety of facts all mnemonics are confessedly at fault.

Mnemoetchnic systems greatly weaken the memory as a whole, and while to a very limited extent they teach it to recall *certain* thoughts, very much impair its capacity *directly* to grasp anything which has not been included in certain categories. Several of the distinguished men whose names are paraded as endorsing certain Arts of Memory have themselves very bad general memories

Remembering items by correlations, comparisons or

(1) Dr. J. M. Granville.

associations may be compared to gathering a herd of prairie wild cattle, and tethering them to the ground by a weak rope and an insecure peg—each animal has to be caught and fastened separately, while the wildest and most agile get away.

Much will depend on the degree of attention which the mind gives to the consideration of a subject. When little or fleeting, the impression will be slight; when mixed up with other impressions, it will be blurred and indistinct.

It is to the important matter of securing attention, technically called "a vivid first impression," that mnemonics owe most of the commendation they have received; for, in the endeavor to form suggestive links and comparisons, the subject matter has to be attentively examined and studied, and it is owing to such attention that the matter is subsequently recalled, and *not* to the mnemonical suggestion; for it is not uncommon to hear persons say that they remember the fact to which they had attempted to apply mnemonics, but forget the associating links; or that they can recall the associative link they were at such pains to devise, but forget the facts.

Loisette practically recognizes the limited efficacy of his system by quoting on the title page of his prospectus Dr. Johnson's dictum, "The True Art of Memory is the Art of Attention."

This is only in part true. The initial "impression" on the brain certainly depends, among other conditions, largely on attention, and the memory is greatly influenced by such initial impression; it is not alone, however, the strength or depth of an impression which determines the permanency of the impression, but also the hardness and durability of the substance in which the impression is made.

Thus impressions made in the sand, in wood, in iron and in granite respectively, though of equal depth and distinctness in each, will, under like conditions, vary in permanency not only by days or weeks or months, but by hundreds of years.

In obtaining a photograph, the negative must first be obtained by exposing the plate, which, however, is worthless until by proper chemicals it has been "developed," and even then the image speedily vanishes unless by other chemicals it is fixed and made permanent.

So in the matter of memory. The eyes may behold and yet the mind take no notice. If now the attention, by means of comparison or otherwise, be directed and held to the subject or matter in question, the percept becomes "developed," and appears vividly to the mind, but notwithstanding the attention bestowed upon it, and its vividness, it sooner or later vanishes unless the memory has been trained to its permanent retention.

How this quality of durability or permanency can be given to brain images, photographs or "impressions," is first taught to the western world—it being partly in the nature of a re-discovery—by the "Accretive System of Developing Memory and Thought' as set forth by Charles G. Leland.

For centuries men have been teaching mnemonic systems, but the idea of developing a general memory for all things perceptible by all the senses never before occurred to any one. It is first taught in the Leland system. The aim and effect of this system of memory-training, is to make the brain receptive to the impressions through all the sense-channels, and further, to make such impressions durable and permanent.

By the Accretive system of Leland, such memory can, by a series of easy and attractive lessons, be developed

to a most extraordinary degree in the time generally required to learn a language fairly well, as language is now taught.

The Accretive system does not teach interesting tricks or feats in one lesson, or in a few days, nor are its pupils "sworn to secrecy." It does not require one hundred and fifty words or ideas to recall *one*. What it *does* is to develop, by a simple process, a memory which grasps *directly* and brings up at once, when needed, any image, idea or fact whatever, without any intermediate chain of words, numerals or letters. And it may be specially and truly said of it, that just at the point and time when the artificial mnemo-phreno-memoria-technic systems begin to break down, the Accretive method manifests full and increasing vigor.

There is no doubt that every man can be taught many *arts* with his memory, and many curious tricks—but all the arts in the world will not give him a good memory, or, in fact, increase what he has, any more than teaching a man a few tricks with cards will make him a good whist player. Any man of average strength can be trained to perform a few of the tricks of professional athletes, but it will not make him a giant of the arena.

It has been observed that this system *creates a general* memory, while mnemotechny, or "Arts of Memory" teach it only to perform feats. This brings us to a second radical difference between the two, and to one which is even more important. Everybody knows that by extreme hard work, or "will applied," boys or men may achieve miracles of memorizing, and that the strain very often weakens the other faculties, so that even sheer idiocy is sometimes the result. The author of the Accretive system has collected and studied a great number of such cases, the result being the conviction that in *every*

instance the evil result has been due, *first*, to needlessly hard work, or "over-pressure," and *second*, to the neglect of gradually and gently developing *with* memory intelligence, attention, interest and quickness of perception. By this method, these are developed from the first lesson, quite as much care being bestowed on them as on mere memorizing. According to Leland, "memorizing," or getting by heart, is an art which can only be perfectly acquired by awakening at the same time thought or intelligence—all efforts to develop memory *alone* to any great extent being absolutely injurious.

Very appropriate to the fact that a very great *direct* (not associative) memory is identical with intellect, is the following quotation from *The Count of Monte Cristo*, by Alexander Dumas. Dantes and the learned and shrewd Abbe Faria have been conversing, and the latter remarks :

"I possessed nearly 5,000 volumes in my library at Rome, but after reading them over many times, I found out that with 150 well-chosen books a man possesses a complete analysis of all human knowledge, or at least all that is either useful or desirable to be acquainted with. I devoted three years of my life to reading and studying these 150 volumns, till I knew them nearly by heart. So that, since I have been in prison, a very slight effort of memory has enabled me to recall the contents as readily as though the papers were open before me I could recite you the whole of Thucydides, Xenophon, Plutarch, Titus Livius, Tacitus, Strada, Jornandes, Dante, Montaigne, Shakespeare, Spinosa, Machiavel, and Bossuet. Observe, I merely quote the most important names and writers."

Now, it is absolutely certain, first, that the man who actually had these various works by heart could not have "a memory enlarged at the expense of his judgment," but that he inevitably must be an acute and well-trained thinker ; second, that such feats cannot be achieved by

any system of association ever invented; and, third, that it *can* be done by the Leland system, which, from the very beginning, earnestly considers and teaches the manner of executing it. To the man who is *master* of this system, such a feat is "far within the possibilities."

What it is proposed to teach is a very simple, easy and practical system, by means of which any person from infancy to mature age can so classify or arrange and keep at hand the impressions of all the senses (that is, *all* kinds of ideas) as to have them fully at command. This, which is termed the Accretive system of Leland, differs radically from every "Art of Memory" or mnemotechny. Its great difference lies in this, that it is the first and only system in which memory is regarded as the active power to retain not only such ideas as are expressed by words, but also *whatever can be seen, heard or experienced by any sense.* As the phonograph not only conveys voices from afar, but also records them permanently, so the memory may be made to convey and keep *all* thought, and more than the phonograph, all sensation.

Mnemonics at most teach only how to learn with what memory *you have.* The Leland system aims at radically creating a new memory. It does not show how to fill a pint measure with ease from the great fountains of knowledge, but how to make for yourself a measure of any other size. In other words, the mnemonics of White, Evans, Loisette and their imitators bear to the Leland system about the same relation as alchemy to chemistry—charlatanism to science.

The reader who may think it claims to effect more than can be easily taught, is requested to reflect that the theory that there is practically no limit to increasing mental power (or memory) may be found here and there, more or less developed, in the writings of Darwin, Huxley,

and all their school, but especially in those of Maudsley, Kay and Galton. Leland was the first to collect and develop these hints into a practicable system of education.

The mnemotechnists endeavor to show you how to invest a part of your capital; the Accretive system teaches you *how to acquire the fortune first*, and then the most profitable manner of investing it.

Of all the systems for developing memory and applying it to education which are now before the public, there is *not one* which has in any degree whatever received such approval from the greatest minds of the time as has the Accretive.

As an illustration of only one of the applications of the Accretive system to education, it may be mentioned that when its author published a brief sketch of his method of teaching languages by it in the *St. James Gazette* of London, it attracted a very interesting series of letters, among which was a long one from the distinguished Canon Taylor, in which he warmly commended it. And when Mr. Leland read a paper in German containing the same theory, before the Oriental Congress at Stockholm in September, 1889, the first remark uttered by the president of the day was a cordial approval of the method. Many writers or thinkers have of late years recommended what may be called *approaches* to this system, but it is certain that it is clearly set forth collectively for the first time in the Manuals of Memorizing.

By the Accretive system a student may, in the same time which is now required to learn short-hand or phonography, acquire the ability to commit a lecture, sermon or debate to memory, and afterwards to write it out. And he may, if so minded, with little extra effort recall it at any time, as has been fully proved.

The business man who masters it will find it gives him the power constantly to take and keep account of stock. Every lawyer who will examine it will find it infinitely preferable to any Art of Memory for purposes of storing up, classifying and recalling cases and experiences, and the same will be admitted by physicians, chemists and all men of science. And it is by the opinion of these practical men that the promulgator of the system desires that it may be judged

Mr. Leland has received letters or other testimonials approving his system from many of the most advanced scientists and writers on education, not only in Great Britain, but in most of the countries of Europe.

When the system was set forth by Mr. Leland before the British Royal Literary Society, Sir James Crichton Brown voiced the general endorsement of that august body in a brilliant speech of approval; and when a part of the system was first outlined in *Practical Education*, it received from its many eminent reviewers such praise as is seldom given with so little reserve to any work, and it may be here observed that the most practical and scientific magazines were the most enthusiastic in their approbation.

'Much more attention ought to be paid to the improvement of the memory than is paid, both at home, and in our schools." —Dr. John Todd.

"It is of no use gathering treasures if we cannot store them; it is equally useless to learn what we cannot retain in the memory."—Prof. Blaikie (Self-Culture.)

"The power of creating depends upon the power of remembering, and he who has most enriched his mind with stores of nature, and of art, will always have the most fertile and readiest invention."—Kay.

"The richer the memory and consequently the greater the number of images that may arise to the poet, and of powers and effects that may arise to the philosopher, the more copious in both cases will be the suggestions of analogy which constitute poetic invention or philosophic discovery, and the more copious the suggestions of analogy may be, the richer and more diversified, it is evident, must be the inventive powers of the mind."—Dr. Thomas Brown.

"It is impossible to overestimate the importance of this subject, as bearing upon education. The whole science of education may be said to be embraced in the question of "How to Improve the Memory." It includes not merely the cultivation of the different mental faculties, and the furnishing them with knowledge, but the training of the sense, and the developing of the various physical powers. Every act in the training or cultivation of any power or faculty depends on memory; all the habits we form are built up through it."—Kay.

"The secret of business success is mainly the retention of perceptions and experiences; in social life memory is the fundamental pre-requisite to brilliancy in conversation and the confidence of our fellows. It is the stepping stone to responsible

and honorable positions, and the indispensable *sine qua non* of the writer and the public speaker."—G. F. C. SMILLIE.

"The *memory* of what is elegant in oratory and sweet in song, inspires and leads us to become orators and poets."—CHAS. G. LELAND.

"There is neither knowledge, nor arts, nor sciences without memory; nor can there be an improvement of mankind in virtue, or morals, or the practice of religion, without the assistance and influence of this power."—DR. WATTS.

"Not only the learning of the scholar, but the inspiration of the poet, the genius of the painter, the heroism of the warrior *all* depend on memory."—KAY.

The Accretive System of Developing

MEMORY

AND

THOUGHT

BY

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President of the Gypsy Folk-Lore Society; Late Director of the Industrial Art Public Schools in Philadelphia; Member of the Oriental Society of Great Britain; Official member of the American, French and Hungarian Folk-Lore Societies and British Home Arts and Industries Association; Author of Practical Education, Industrial Art in Schools, Hints on Self-Education, The Minor Arts, Twelve Manuals of Art, Etc., Etc.

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